What is claimed is:

1. A control method of a wavelength dispersion compensator which comprises: an optical component provided with a demultiplexing function, including a device having two reflective surfaces which are opposed and parallel to each other, in which a light condensed in the one-dimensional direction is incident between said reflective surfaces of the device, and a part of said incident light is transmitted through one of said reflective surfaces while said incident light being multiple-reflected on the reflective surfaces, to be emitted, and said emitted light interferes mutually, so that optical beams traveling directions of which are different from each other according to wavelengths are formed; and a reflector reflecting, at a previously set position, optical beams of respective wavelengths emitted from one of the reflective surfaces of said optical component in different directions to return the optical beams to said optical component, respectively, said control method comprising:

acquiring to store data relating to wavelength dispersion values in respective wavelengths in a wavelength band of the incident light so as to correspond to a position of said reflector, before starting the operation of wavelength dispersion compensation by said wavelength dispersion compensator;

inputting a setting condition inclusive of the wavelength dispersion values to be compensated at the operation time and wavelength information of the incident light;

reading out the data corresponding to said setting condition from said stored data, and based on said read data, judging the position of said reflector, which enables the reduction of wavelength dependence of the wavelength dispersion values in the operation time; and

controlling the position of said reflector in accordance with the judgment result, to start the operation of wavelength dispersion compensation.

2. A control method of a wavelength dispersion compensator which comprises: an optical component provided with a demultiplexing function, including a device having two reflective surfaces which are opposed and parallel to each other, in which a light condensed in the one-dimensional direction is incident between said reflective surfaces of the device, and a part of said incident light is transmitted through one of said reflective surfaces while said incident light being multiple-reflected on the reflective surfaces, to be emitted, and said emitted light

interferes mutually, so that optical beams traveling directions of which are different from each other according to wavelengths are formed; and a reflector reflecting, at a previously set position, optical beams of respective wavelengths emitted from one of the reflective surfaces of said optical component in different directions to return the optical beams to said optical component, respectively, said control method comprising:

acquiring to store data relating to a wavelength transmission characteristic of said optical component so as to correspond to the temperature of said optical component, before starting the operation of wavelength dispersion compensation by said wavelength dispersion compensator;

inputting a setting condition inclusive of wavelength dispersion values to be compensated at the operation time and wavelength information of the incident light;

measuring the temperature of said optical component;

reading out the data corresponding to said setting condition and the temperature of said optical component from said stored data, and based on said read data, judging the temperature of said optical component, at which a parameter being a reference of the wavelength transmission characteristic of said optical component is substantially fixed; and

controlling the temperature of said optical component in accordance with said judgment result, to start the operation of wavelength dispersion compensation.

3. A control method of a wavelength dispersion compensator according to claim 2,

wherein data relating to an error for when the ambient temperature of said wavelength dispersion compensator is varied, is acquired to be stored for the wavelength transmission characteristic corresponding to the temperature of said optical component, before starting the operation of wavelength dispersion compensation by said wavelength dispersion compensator,

the ambient temperature of said wavelength dispersion compensator is measured, and

said stored data is read out according to said measured ambient temperature of the wavelength dispersion compensator, and in accordance with said read data, said judged temperature of the optical component is corrected.

4. A control method of a wavelength dispersion compensator according to claim 2,

wherein, after starting the operation of wavelength dispersion compensation, the temperature of said optical component is measured, and said stored data is read out according to said measured temperature of the optical component, to feedback control the temperature of said optical component based on said read data.

5. A control method of a wavelength dispersion compensator according to claim 2,

wherein the parameter being the reference of the wavelength transmission characteristic of said optical component is the center wavelength of a transmission band.

6. A control method of a wavelength dispersion compensator according to claim 2,

wherein the parameter being the reference of the wavelength transmission characteristic of said optical component is a minimum insertion loss wavelength within a transmission band.

7. A control method of a wavelength dispersion compensator according to claim 2,

wherein the parameter being the reference of the wavelength transmission characteristic of said optical component is an inflection point wavelength of an insertion loss characteristic in a transmission band.

8. A control method of a wavelength dispersion compensator which comprises: an optical component provided with a demultiplexing function, including a device having two reflective surfaces which are opposed and parallel to each other, in which a light condensed in the one-dimensional direction is incident between said reflective surfaces of the device, and a part of said incident light is transmitted through one of said reflective surfaces while said incident light being multiple-reflected on the reflective surfaces, to be emitted, and said emitted light interferes mutually, so that optical beams traveling directions of which are different from each other according to wavelengths are formed; and a reflector reflecting, at a previously set position, optical beams of respective wavelengths emitted from one of the reflective surfaces of said optical component in different directions to return the optical beams to said optical component, respectively, said control method comprising:

acquiring to store data relating to wavelength dispersion values in respective wavelengths in a wavelength band of the incident light so as to correspond to a position of said reflector, and also acquiring to store data relating to a wavelength transmission characteristic of said optical component so as to correspond to the temperature of said optical component, before starting the operation of wavelength dispersion compensation by said wavelength dispersion compensator;

inputting a setting condition inclusive of the wavelength dispersion values to be compensated at the operation time and wavelength information of the incident light;

measuring the temperature of said optical component;

reading out the data corresponding to said setting condition and the temperature of said optical component from said stored data, and based on said read data, judging the position of said reflector, which enables the reduction of wavelength dependence of the wavelength dispersion values in the operation time, and also judging the temperature of said optical component, at which a parameter being a reference of the wavelength transmission characteristic of said optical component is substantially fixed; and

controlling the position of said reflector and the temperature of said optical component in accordance with the judgment result, to start the operation of wavelength dispersion compensation.

9. A wavelength dispersion compensator which comprises: an optical component provided with a demultiplexing function, including a device having two reflective surfaces which are opposed and parallel to each other, in which a light condensed in the one-dimensional direction is incident between said reflective surfaces of the device, and a part of said incident light is transmitted through one of said reflective surfaces while said incident light being multiple-reflected on the reflective surfaces, to be emitted, and said emitted light interferes mutually, so that optical beams traveling directions of which are different from each other according to wavelengths are formed; and a reflector reflecting, at a previously set position, optical beams of respective wavelengths emitted from one of the reflective surfaces of said optical component in different directions to return the optical beams to said optical component, respectively, said wavelength dispersion compensator comprising:

a storing section that acquires to store data relating to wavelength

dispersion values in respective wavelengths in a wavelength band of the incident light so as to correspond to a position of said reflector, before starting the operation of wavelength dispersion compensation;

a position adjusting section that variably changes the position of said reflector; and

a control section that receives a setting condition inclusive of the wavelength dispersion values to be compensated at the operation time and wavelength information of the incident light; reads out the data corresponding to said setting condition from said stored data, and based on said read data, judges the position of said reflector, which enables the reduction of wavelength dependence of the wavelength dispersion values in the operation time, to control the position of said reflector in accordance with the judgment result.

10. A wavelength dispersion compensator which comprises: an optical component provided with a demultiplexing function, including a device having two reflective surfaces which are opposed and parallel to each other, in which a light condensed in the one-dimensional direction is incident between said reflective surfaces of the device, and a part of said incident light is transmitted through one of said reflective surfaces while said incident light being multiple-reflected on the reflective surfaces, to be emitted, and said emitted light interferes mutually, so that optical beams traveling directions of which are different from each other according to wavelengths are formed; and a reflector reflecting, at a previously set position, optical beams of respective wavelengths emitted from one of the reflective surfaces of said optical component in different directions to return the optical beams to said optical component, respectively, said wavelength dispersion compensator comprising:

a storing section that acquires to store data relating to a wavelength transmission characteristic of said optical component so as to correspond to the temperature of said optical component, before starting the operation of wavelength dispersion compensation;

a first temperature sensor measuring the temperature of said optical component;

a temperature adjusting section that variably changes the temperature of said optical component; and

a control section that receives a setting condition inclusive of wavelength dispersion values to be compensated at the operation time and wavelength

information of the incident light; reads out the data corresponding to said setting condition and the measured temperature by said first temperature sensor from said stored data, and based on said read data, judges the temperature of said optical component, at which a parameter being a reference of a wavelength transmission characteristic of said optical component is substantially fixed, to control said temperature adjusting section in accordance with the judgment result.

11. A wavelength dispersion compensator according to claim 10, further comprising;

a second temperature sensor measuring the ambient temperature,

wherein said storing section previously stores data relating to an error for when the ambient temperature is varied for the wavelength transmission characteristic corresponding to the temperature of said optical component, and

said control section reads out the data stored in said storing section according to the ambient temperature measured by said second temperature sensor, and in accordance with said read data, corrects said judged temperature of the optical component.

12. A wavelength dispersion compensator according to claim 10,

wherein, after starting the operation of wavelength dispersion compensation, said control section reads out the data stored in said storing section according to the temperature of said optical component measured by said first temperature sensor, to feedback control said temperature adjusting section based on said read data.

13. A wavelength dispersion compensator which comprises: an optical component provided with a demultiplexing function, including a device having two reflective surfaces which are opposed and parallel to each other, in which a light condensed in the one-dimensional direction is incident between said reflective surfaces of the device, and a part of said incident light is transmitted through one of said reflective surfaces while said incident light being multiple-reflected on the reflective surfaces, to be emitted, and said emitted light interferes mutually, so that optical beams traveling directions of which are different from each other according to wavelengths are formed; and a reflector reflecting, at a previously set position, optical beams of respective wavelengths emitted from one of the reflective surfaces of said optical component in different directions to return the optical beams to said optical component, respectively, said wavelength dispersion compensator

comprising:

a storing section that stores data relating to wavelength dispersion values in respective wavelengths in a wavelength band of the incident light, which is acquired so as to correspond to a position of said reflector, and also stores data relating to a wavelength transmission characteristic of said optical component, which is acquired so as to correspond to the temperature of said optical component, before starting the operation of wavelength dispersion compensation;

a position adjusting section that variably changes the position of said reflector;

a first temperature sensor measuring the temperature of said optical component;

a temperature adjusting section that variably changes the temperature of said optical component; and

a control section that receives a setting condition inclusive of the wavelength dispersion values to be compensated at the operation time and wavelength information of the incident light, reads out the data corresponding to said setting condition and the temperature measured by said first temperature sensor from the data stored in said storing section, and based on said read data, judges the position of said reflector, which enables the reduction of wavelength dependence of the wavelength dispersion values in the operation time, and also judges the temperature of said optical component, at which a parameter being a reference of the wavelength transmission characteristic of said optical component is substantially fixed, to control the position adjusting section and said temperature adjusting section in accordance with the judgment result.

14. An optical transmission network transmitting a signal light between an optical transmission station and an optical reception station via an optical fiber transmission path,

wherein the compensation of wavelength dispersion occurred in the signal light transmitted over said optical fiber transmission path is performed using the wavelength dispersion compensator in any one of claims 9 to 13.